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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,361	12/20/2001	Dennis A. Lonigro	U0081/7026	9665

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EXAMINER
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DOUGHERTY, ANTHONY T

ART UNIT	PAPER NUMBER
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2863

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/027,361

Applicant(s)

LONIGRO ET AL.

Examiner

Anthony T. Dougherty

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-9, 12, 15, 16, 18, 19, 23-26, 28, 33, 39-41, 43 and 45 is/are rejected.
- 7) ☒ Claim(s) 4-6, 10, 11, 13, 14, 17, 20-22, 27, 29-32, 34-38, 42 and 44 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 7-9, 12, 15, 16, 18, 19, 23-26, 28, 39-41 and 43 rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,668,948 to Merkel.

With regard to claims 1, 7, 16, 23, 39, 40 and 41, Merkel discloses detecting a plugged sensor port in a system containing a fluid being monitored (see abstract) by a sensor that senses a fluid variable through a sensor port (see column 3 line 23 through line 27) a controller (see column 3 line 37) for determining a range based on the measured fluid variable beyond which the fluid variable is expected to vary within a predetermined time interval (see column 3 line 39 through line 45 & column 7 line 34 through line 47), measuring the fluid variable (see column 4 line 20 through line 26), indicating a plugged sensor port in response to the measured variable remaining within a range for a predetermined time interval (see column 9 line 36 through column 10 line 2), and actuating a clearing mechanism to clear the plugged port (see column 4 line 65 through line 67).

With regard to claims 2, 8, 24, and 25, and applying the rejections of claims 1, 7, and 23 above, Merkel discloses determining the range based on a measured value of the fluid variable being outside a range (see column 3 line 39 through line 45 & abstract).

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With regard to claims 3, 9, and 26, and applying the rejections of claims 1, 7, and 23 above, Merkel discloses determining the range based on an upper and lower threshold value for the fluid variable (see Figure 11 & column 7 line 34 through line 47).

With regard to claims 12, 19, and 28, and applying the rejection of claims 7, 16, and 23 above, Merkel discloses performing a corrective action to clear the plugged port connection in response to an indication that the port is plugged (see column 4 line 65 through line 67).

With regard to claim 15, and applying the rejection of claim 7 above, Merkel discloses displaying information regarding the port connection to a user (see column 3 line 57 through line 63).

With regard to claims 18, and 43, and applying the rejection of claims 16, and 41 above, Merkel discloses a timer (see column 6 line 55 through line 57), and a comparator that compares the fluid variable to an upper and lower threshold of a range (see column 4 line 20 through line 26).

With regard to claim 45 and applying the rejection of claim 1 above, Merkel discloses the range is established relative to a nominal operating value of the fluid variable (see column 3 line 39 through line 45).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claim 33 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,668,948 to Merkel in view of U.S. Patent No. 4,555,712 to Arway et al.

With regard to claim 33, the primary reference to Merkel discloses detecting a plugged sensor port in a system containing a fluid being monitored (see abstract) by a sensor that senses a fluid variable through a sensor port (see column 3 line 23 through line 27) a controller (see column 3 line 37) for determining a range based on the measured fluid variable beyond which the fluid variable is expected to vary within a predetermined time interval (see column 3 line 39 through line 45 & column 7 line 34 through line 47), measuring the fluid variable (see column 4 line 20 through line 26), indicating a plugged sensor port in response to the measured variable remaining within a range for a predetermined time interval (see column 9 line 36 through column 10 line 2), actuating a clearing mechanism to clear the plugged port (see column 4 line 65 through line 67) and performing a corrective action to clear the plugged port connection in response to an indication that the port is plugged (see column 4 line 65 through line 67). However, Merkel fails to disclose a means for clearing the plugged port being adding a solvent by actuating a valve.

The secondary reference to Arway et al. discloses actuating a valve to introduce solvent to a system when a flow rate goes below a set point (see column 5 line 57 through line 62).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have specified the clearing mechanism of Merkel be adding a solvent by use of a valve.

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Accordingly, such a modification would have been obvious since Arway et al. teaches that solvent may be added to a fluid to lower its viscosity (see column 5 line 17 through line 18) and thus improve the fluids ability to flow clearing a plugged port, thereby suggesting the obviousness of the modification.

***Allowable Subject Matter***

5. Claims 4-6, 10, 11, 13, 14, 17, 20, 21, 22, 27, 29-32, 34-38, and 42 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claim 4 is the inclusion of the method step of determining the upper and lower threshold values of a range as a percentage of one of an expected operating value, and the measured fluid variable. It is this step found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 5 is the inclusion of the method step of selecting a predetermined time interval based on characteristics of the process being monitored. It is this step found in each of the claims, as it is claimed in the

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combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 6, and 11 is the inclusion of the method step of indicating a plugged sensor port in response to the measured fluid variable remaining within a range for at least two consecutive predetermined time intervals. It is this step found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 10 is the inclusion of the method step of determining the range comprises determining a minimum amount by which the fluid variable is expected to vary above and below a nominal operating range over a selected time interval. It is this step found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 13 and 34 is the inclusion of the method step of providing information regarding a condition of the port to a remote location. It is this step found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 14 and 35-38 is the inclusion of the method steps being receiving an input from a user, and providing a control signal responsive to user input to program the range or time interval. It is these steps found in each of the claims, as they are claimed in the combination, that has not been found,

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taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 22 and 31 is the inclusion of the limitation of the mechanism that clears the plugged includes a mechanical device movable within the port to clear the port. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 17, 27, and 42 is the inclusion of the limitation of a controller establishing a predetermined time interval based on characteristics of the process being monitored. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 20, 21, and 29 is the inclusion of the limitation of a mechanism that clear a plugged port being a vibrator that vibrates in response to an actuating signal to clear the port. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 30 is the inclusion of the limitation of the means for clearing the port comprises a heater that heats the fluid in response to an indication of a plugged port. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.



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The primary reason for the allowance of claim 32 is the inclusion of the limitation of the mechanical device is a pinch valve mechanism, a rotatable vane, a rotatable auger, or a butterfly valve. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 44 is the inclusion of the method step of reestablishing the range in response to the fluid variable exceeding a threshold of the range. It is this step found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

### ***Response to Arguments***

7. Applicant's arguments filed 4/5/2004 have been fully considered but they are not persuasive.

Regarding applicant's arguments on page 12 paragraphs 1 and 2 it is clear that Merkel discloses a sensor (40) is affixed to a dispenser (20) to detect the pressure of the fluid within the dispenser at the sensor location (see column 3 line 26 through line 28), the sensor must be connected to the dispenser by means of a port through which the sensor can detect the fluid pressure (see column 3 line 34 through line 36) or no detection would be possible, further since the pressure is sensed at the port where the dispenser and sensor are connected any plugged condition of the nozzle would be read by the pressure sensor as the same signal that would be read in the condition of a plugged sensor port

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indicating the prior art reads fully on this limitation of the claim since the prior art does perform the function of detecting a plugged sensor port.

Regarding applicant's arguments on page 13 paragraphs 1 and 2 it is clear that Merkel discloses a plugged condition is indicated by a fluid pressure remaining within the range of 0 to 40 psi (see column 7 line 43 through line 45), even though this range is outside the range of normal operation it is within another range that indicates a fault, further this range of 0 to 40 psi is a range beyond which a fluid variable is expected to vary indicating the prior art reads fully on this limitation of the claim since the prior art does perform the function of indicating a plugged condition in response to a fluid variable remaining within a range.

Regarding applicant's arguments on page 13 paragraph 3 it is clear that Merkel discloses a counter controlled by a clock with a predetermined period that determines when a fault or plugged condition is indicated (see column 9 line 56 through line 59), indicating the prior art reads fully on this limitation of the claim since the prior art does perform the function of indicating a plugged port in response to a measured variable remaining within a range for a predetermined time interval.

Regarding applicant's arguments on page 14 paragraph 3 it is clear that Arway discloses actuating a valve to introduce solvent to a system when a flow rate goes below a set point (see column 5 line 57 through line 62).

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

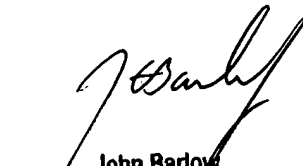
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony T. Dougherty whose telephone number is (571) 272-2273. The examiner can normally be reached on Monday through Friday from 8 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
atd

  
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